

State of Illinois
Department of Transportation
Division of Highways
Springfield

SPECIFICATIONS
FOR
CUTTING EDGES FOR GRADER BLADES

Serial Number: M37-02

1. Material. The cutting edges shall be formed from open-hearth carbon steel or other steels meeting the approval of the Department.
2. Composition. If formed from open-hearth carbon steel the cutting edges shall conform to the following requirements:

	<u>Minimum</u>	<u>Maximum</u>
Carbon, Percent	0.80	1.00
Manganese, Percent	0.50	0.90
Phosphorous, Percent	-	0.05
Sulphur, Percent	-	0.05
Silicon, Percent	-	0.30

If alloy or special composition is used, its composition shall be approved in writing by the Department.

3. Chemical Analysis. An analysis of each melt of steel shall be made by the manufacturer to determine the percentages of the elements specified in Article 2. This analysis shall be made from a test ingot taken during the pouring of the melt. The chemical composition thus determined shall be reported to the Department and shall conform to the requirements specified in Article 2.
4. Check Analysis. An analysis may be made by the Department from a finished cutting edge and the composition thus determined shall comply with the requirements specified in Article 2.
5. Hardness. The finished cutting edges shall have a Rockwell C Scale hardness of not less than 25 nor more than 35. The Rockwell hardness shall be determined on a finished cutting edge in accordance with the Standard Methods of Test for Rockwell Hardness and Rockwell Superficial Hardness of Metallic Materials, ASTM Designation: E-18.

6. Dimensions. The length, width, thickness, curvature and bevel of the finished cutting edges shall be as shown on the plans or specified on the order. All grader blades to be double bevel curved unless otherwise specified.

7. Spacing and Size of Punchings. The spacing and size of the punching of the finished cutting edges shall comply with the sketches. For sketches, contact the Bureau of Materials and Physical Research, Engineer of Tests, at (217) 782-7200.

8. Finish. The finished cutting edges shall be straight, free from flaws and injurious defects, and shall have a workmanlike finish. All surfaces shall be painted with one coat of paint or lacquer meeting the approval of the Department.

9. Inspection. All cutting edges shall be inspected by the Department for compliance with the specifications. The inspection may be performed upon the finished cutting edges subsequent to delivery or if the Department elects, the inspection may be undertaken at the place of manufacture, in which case the inspector representing the Department shall have free entry to all parts of the manufacturer's plant which concern the production of the cutting edges ordered.

Effective February 1, 2002

This specification supersedes Serial Number M37-88, effective February 1, 1988.

RWH/dg/M37-02